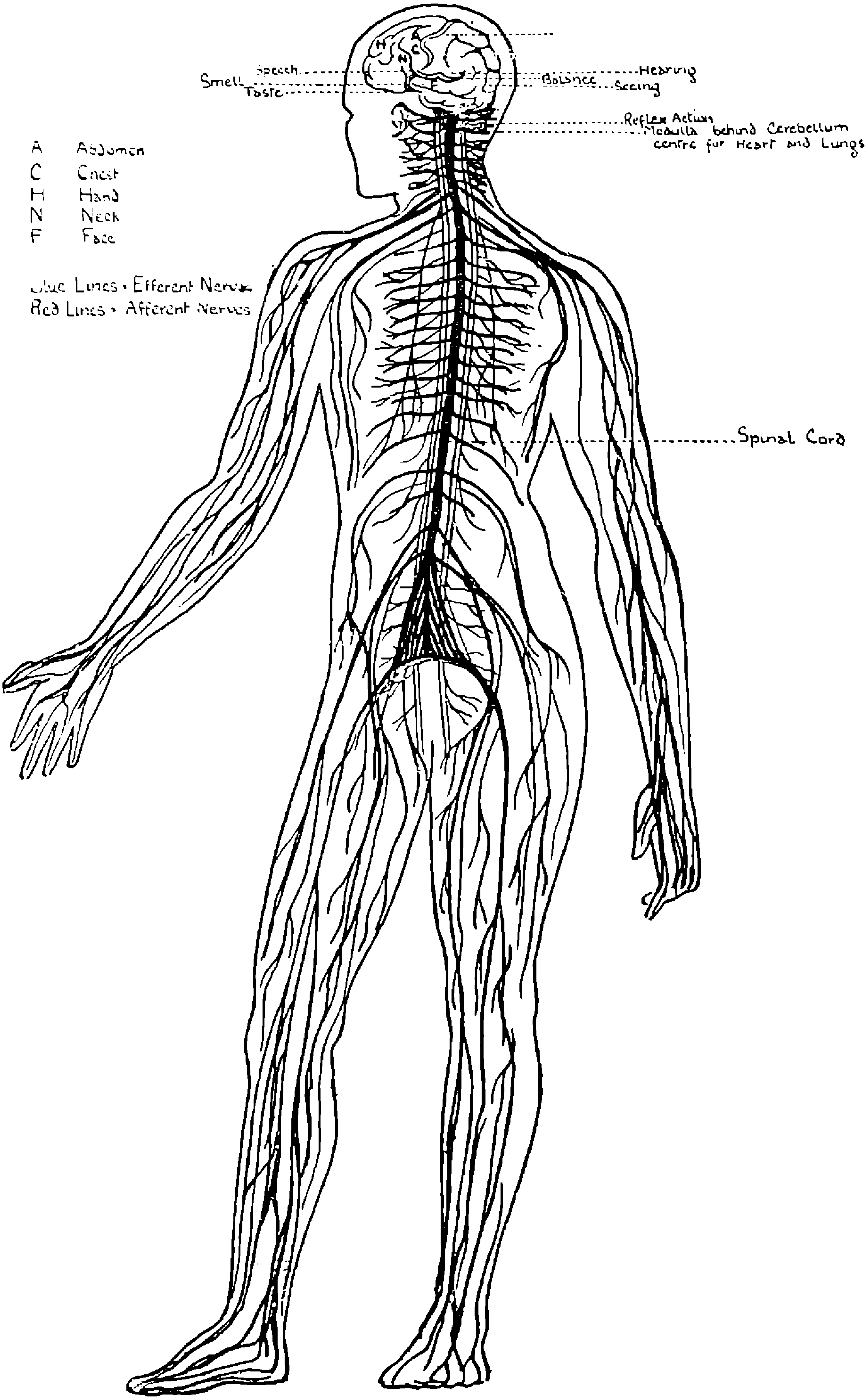
CHILD PSYCHOLOGY

BARRIE

DIAGRAM TO ILLUSTRATE THE NERVOUS SYSTEM.



CHILD PSYCHOLOGY

A STUDY OF THE FIRST THREE YEARS
OF A CHILD'S LIFE

M. W. BARRIE, M.A.

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PREFACE

The series of nine short simple lectures contained in this little book was prepared for the first Health Visitors' course established in Madras in the year 1929-30. They are now being published in the hope that they will be of use to many as they embody in simple language the essential facts of the earliest years of a child's psycho-physiological development.

M. W. B.

FOREWORD—I

Miss Barrie has asked me to write a foreword to her set of lectures on elementary psychology. I am glad to do so not because I can claim any authoritative knowledge of the subject, but because I believe so firmly that it is one of the greatest importance to every one who is engaged in trying to teach the lessons of mothercraft to women in India. It was this conviction which led to the inclusion of some simple lectures on psychology in the syllabus of the Lady Reading Health School at Delhi. The students themselves have expressed great appreciation of this course of lectures and fully realise the help it has given them in leading mothers to understand how to train their children. It is upon the mothers that this task ultimately falls, but the majority are not in a position to study the subject at first-hand. The health visitor, or other worker concerned, is able, if she has the knowledge herself, to pass on to the mother much that is helpful on a sound psychological basis.

In my opinion Miss Barrie has handled her subject in an admirable way. She has made physiology, with which health students are already familiar, her starting point. Throughout she has related the subject to the hygiene of infant and child life, a very important practical point. She has also started with the very foundation, the newly born child, and health workers know how too often the wrong habits they observe in the toddler are due to wrong training in infancy which could so easily have been right. For the sake of the rising generation

neither the health worker nor the mother can afford to be ignorant of mental processes any more than of physical. It is my hope that Miss Barrie's book will have the wide circulation its usefulness deserves.

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FOREWORD—II

A study of the important part that the physiological functions play in the psychological development of the infant and the growing child is of great value to the mother, for the future of the child depends to a great extent on the way the child's nervous system is moulded and fitted for the discharge of its functions as the future citizen. A great deal has been said on the hereditary transmission of physical and mental peculiarities and moral inclinations, but as often as not, the importance of environment in the shaping of the mind and character has been lost sight of. In this handbook Miss M. W. Barrie has tried to place before the reader in simple language and concise form the inter-relation between physiological functions and mental development together with the effect of the physical, intellectual, mental and moral environments on the formation of the mind and character of the child, the citizen of to-morrow.

The handbook must be a useful and interesting one to parents and to teachers and will be of special value in stimulating thought on the right way of bringing up the infant and the growing child. It very often puzzles the anxious parents to know what should be done for the right shaping of the body and mind of the child at an age which really constitutes the most critical in its development. This handbook can be trusted to give such parents the desired clue.

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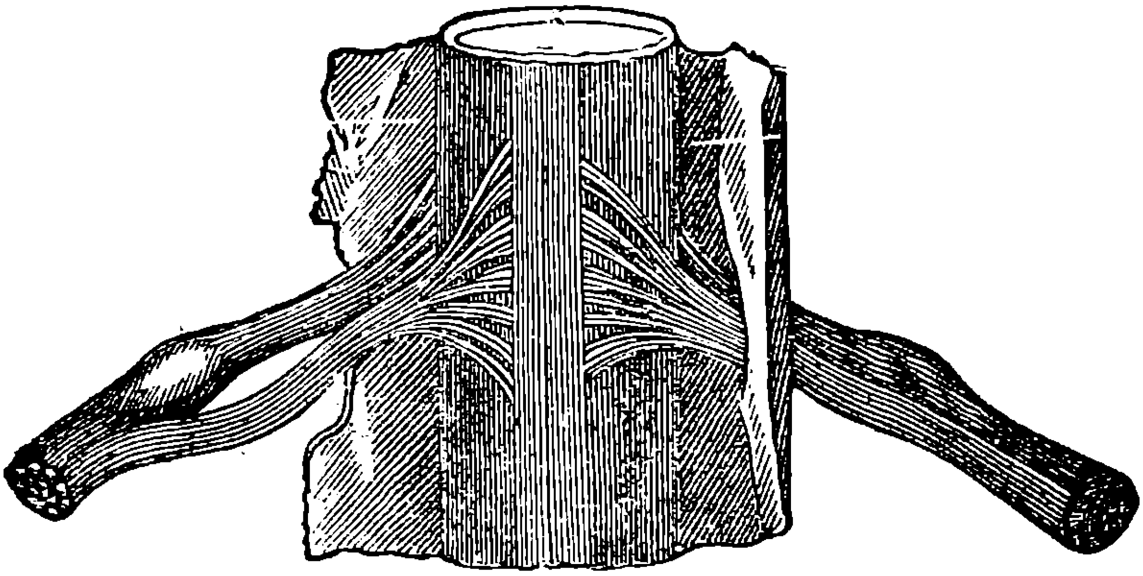

Portion of spinal cord showing afferent and efferent nerves.

LECTURE I

The Meaning of Psychology and the Relation of Psychology to Physiology

Outline

1. The meaning of psychology.
2. How psychology depends on physiology.
3. The two main divisions of the nervous system.
4. The 'end organs' and their importance.
5. The importance of health for the psychological development of the child and the human being.

In the simplest terms, psychology may be defined as the knowledge of the nature of the human consciousness and of how the consciousness works. Consciousness means being aware of or knowing about anything. For example, when we say we feel pain we mean that we are aware of something wrong in the body. When we hear a sound, we are aware that something outside ourselves is causing the sensation in our brain that we call hearing. Out of this power of awareness the mind grows in connection with the body. The term MIND includes all our power of thinking and of feeling, our impulses and desires to do things as well as our power to do things i.e. to act. So when we speak of psychology we should try to realise that it means all three, i.e., thinking and feeling and action, or doing.

It is very important to remember, however, that there is a constant and very close relationship between our body and our mind. Every part of the body is involved in our thinking and feeling as well as in our actions. Every part of the body is affected by our thinking and feeling as well as by our actions. Every condition of the body affects also our thinking, feeling and action. For example, so strong is the influence of thinking on the body that perfectly healthy men and women may make themselves sick by merely thinking that they are so. Often, too, fear or disinclination to do things may 'inhibit' or prevent our power of action or doing what we ought to do. Likewise when the body is unhealthy or diseased it is generally not possible to think clearly, feel truly or act properly or intelligently, i.e., think and act together. It must be clearly understood, therefore, that when we say that people are not intelligent and

quick at learning we mean that they do not or cannot think clearly and quickly, feel truly or behave properly.

All this shows how closely the body and the mind are linked together. But there is a special part of the body which is especially connected with the growth and the working of the mind. It forms the link, as it were, between body and mind. This is the Nervous System. Before one can understand this special system of the body one must learn about the structure of the body, physiology, but we will here only recall certain important facts about the nervous system in order to get as clear an understanding as possible of how the mind grows in relation with the growth of the body.

First of all there are the two main divisions in the Nervous System; the Cerebro-spinal Nervous System and the Sympathetic Nervous System.

The Cerebro-spinal Nervous System may be said to consist of four distinct parts, and the distinction arises from the work or function that each part performs. Beginning with the most important, we may say that the first part is the brain, which is carefully enclosed in, and protected by, the bony skull. The second part is the long projection of the brain called the spinal cord. It stretches down the middle of the back and is also enclosed in, and protected by, a bony structure called the vertebral column. The third part consists of the millions of nerve fibres which form the lines of communication between the surface of the body and the two nerve 'centres', as the brain and the spinal cord are called. There are two sets of nerves (1) those that carry communications from the surface of the body to the nerve centres; and (2) those that carry communications from the nerve centres to the surface again. The first are called afferent nerves and the second are

called efferent nerves. The fourth part consists of special parts of this same nerve tissue which have been specially developed so as to be able to receive special kinds of impressions from the world around us. They are called 'End Organs' and they also are of two distinct types. First there are those which receive special kinds of experiences from the outside world such as the eye, the ear, the skin, the nose and the tongue. These are known as 'Sense Organs' Secondly there are those which are intended to be the instruments of our will and to enable us to do things i.e. to act or express our thoughts and our feelings. They are sometimes called 'Movement or Motor Organs' and consist of the limbs, the muscles of the body and the voice organ.

Our study of physiology teaches us something of the wonderful structure of these sense organs and how they are made up of bone, skin, muscle and delicate membranes. But however wonderful this may be yet the most important part of them is the specialised nerve fibre which links each 'organ' with the spinal cord or the brain or both. Without the nerve fibre connection between our limbs, muscles and voice organ, these would be useless to us. This can be seen when any of the nerve fibres are not working, i.e., when a person suffers from paralysis.

The second great division of the Nervous System is the Sympathetic Nervous System. It consists of certain bunches of nerve cells and nerve fibres, called 'ganglia' together with the affective or afferent nerves and the effective or efferent nerves that lead to and from the ganglia. These ganglia are situated on each side of the spinal cord at certain places along its whole length. They are chiefly connected with the internal organs and the glands of the body. It is through this system that

changes which occur in any one of our internal organs affect all the others, and it is also through this system that we are able to 'know' or to be aware of these changes. Afferent and efferent nerves link each organ with a certain 'ganglion' and likewise certain afferent and efferent nerves connect these ganglia with the spinal cord and with each other. Through the first, the changes in the organs are registered in the ganglia. Through the second set these changes can be linked up with the Cerebro-spinal Sensory-motor Nerve System. For example, if we take something that is very hot into our stomach, the effect is registered in the sympathetic nervous system. A message will be sent on to the spinal cord and if it passes on to the brain will make us 'aware of' this. Another message will be sent back directly to the stomach to set certain glands into activity in order to counteract or prevent any injurious effects there. Through the sympathetic links the ductless glands get affected too and send out 'hormones' through the blood to counteract in some way any bad effects of the injurious material in the other parts of the body.

It is through this system also that a baby begins to learn to 'feel', i.e., to have the consciousness of comfort and discomfort, which develops later into the feeling of pleasure and pain, and later still into emotions.

These facts show the important part played by the nervous system in keeping every part of the body working in such harmony with every other part, that one part cannot be affected without all the other parts being affected also. From the point of view of the mind, it must above all be noted that it is the nervous system which *keeps us aware* of all that is going on both inside and outside of us, which enables us to know, to think, to feel, and to act.

This makes it clear that health of body is important not only in itself but even more for the sake of the development of the mind. To state this fact clearly as it affects the child, it is above all vitally necessary for the growing intelligence of the child that the sense organs, the motor organs and the nervous system as a whole should be healthy, active and well balanced.

LECTURE II

The Growth of Mind

Outline

1. The condition of the child's mind at birth.
2. The importance of health for the development of intelligence.
3. The relation of each of the senses to consciousness, mind.
4. Intelligence and knowledge.
5. The environment—the awakener and developer of the mind through the senses.
6. The necessity for the proper environment from birth.

When a baby is born it is almost a perfect little human being physically. Its nervous system and all its organs and muscles are ready for use though they are yet tender and delicate. But we cannot say that it has a mind. It cannot use its body. It is blind, deaf, dumb, without smell, taste or feeling in its skin. Its only sensations have been some dim awareness or feeling arising from the internal organs through which it is fed while in its mother's womb, or it may be from the changes in temperature in its mother's body. It is like a little prisoner shut up in a dark prison-house. Its windows are shuttered; no light has yet entered; no message can yet go out from it. If all the parts of the body, and especially the nervous system, are sound, properly formed, healthy and not diseased, then the process of learning begins immediately after birth. If, however, through some disease, some part of the body cannot function, especially if the eyes, ears, skin, nose and mouth—the sense organs—are diseased, then the nervous system does not work quickly or cannot at all do its work of collecting experiences or sense impressions, nor can it do its 'co-ordinating' work of keeping all the parts of the body working in harmony with each other. Thus the development of the child's consciousness or awareness will be retarded, and the child will not get those experiences it requires or it may be even quite hindered in its development. It may receive only very feeble impressions—too feeble to awaken consciousness quickly enough, or it may receive none at all, or it may receive impressions only through one or two sense organs instead of through five. This last condition means that its mental impressions will be incomplete and therefore

'wrong' from the normal viewpoint. At first, the defective receiving of impressions will be apparent only in the feebleness or absence of movements or motor responses that arise automatically from healthy sense stimulation of the sensory end organs. Later, it will show as defective or dull 'intelligence'

The learning process, or the development of the mind, then, means, at the beginning of life, the gradual opening of the sense windows to let in the experiences of the outside world. Then when the little child becomes aware of these, the gradual development of the power to send out messages or responses to the outside world consciously, i.e. to act in such a way as to show that it is aware of what is happening around it as well as inside its own body. This is called learning to know 'objective' existence, or the world outside as distinct from itself.

If any of the senses are defective, then the little child is shut off from certain kinds of outside experiences, and will therefore not be able to know 'correctly' what is happening outside it. In other words, it will be apt to develop wrong or unbalanced ideas about things, and wrong feelings. This develops, in later life, into lack of understanding or a tendency to misunderstand.

Thus we see how important it is that the health of the baby should be sound and that every part of its body should receive careful attention. Its eyes, its ears, its skin, its mouth, its nose as well as all its internal organs and external parts should be kept healthy, for its mental development depends to a very large extent on the bodily condition.

But sound senses and a healthy body are not sufficient for the development of mind. The senses require special stimulation. This should be supplied by the

world around us, our 'environment' It is the environment that sets the organs and the brain working. Through the impressions made on the nervous system by certain 'qualities' in the environment, the child builds up 'pictures' in its mind, develops ideas and learns to know the world around it. Because it is through the senses that this knowledge is acquired the senses are often called 'the gateways of the mind' or 'the gateways of knowledge' Let us see what kind of knowledge the child acquires through each one of its senses separately.

Through the eye gateway it becomes conscious of i.e. learns to see, light, colour and shape, though this last in part only. We can also say that it learns to 'know' certain things through its eye sensation, i.e., it acquires a certain type of knowledge through the eye. It learns to 'know', or, as we say more often, to hear, noises and sounds through its ear sensations and strange to say the ear has a great deal to do with 'balanced' movement. By means of the touch organ in the skin it becomes aware of, or gets to know, the meaning of heat and cold, i.e., the temperature of different kinds of substances, and the roughness and smoothness, hardness and softness of the things around it. Three senses working together, the touch, sight and movement give the knowledge of 'size' 'distance' and 'weight'

But what does knowing through the nose gateway mean? Through the sense of smell we learn to distinguish the unpleasant odours and unwholesome odours given off by decaying matter which are injurious if breathed into the lungs and assimilated into the blood; and to recognise the pleasant and wholesome odours and appreciate the beautiful odours which we call perfumes. The sense of smell, therefore, is perhaps the most im-

portant to cultivate for securing the establishment of hygienic living conditions.

Knowledge through the fifth sense organ, the taste buds of the tongue, should be knowledge of what is suitable as well as pleasant for the health of the body to eat or drink. Through them we can learn the different effects of various kinds of foods on the body, just that same type of knowledge which the expert chemist in his laboratory tries to find out by experimenting with animals. Is it not interesting to learn that the human body is so well supplied with instruments for gaining knowledge of all kinds by the mind if we only learn to use them properly?

Besides the usually recognised five senses, there are yet two other kinds of sense experience from which the child learns. The first consists of the sensations of movement which it obtains from the reflex moving of the joints and muscles of its body. This is sometimes called nowadays the 'movement' sense. The second of what might be called the 'new' senses is called the 'organic' sense. This is the experience arising out of the working of the internal organs of the body. These last two 'senses' are really the first of which the child becomes aware; they are of importance equal to if not even greater than those that were considered till quite recently the only 'senses'

The 'movement' sense experience has three distinct qualities. One is a pure movement experience; it is known as the 'kinaesthetic' sense of movement. Another is a round and round movement sense and is called the 'labyrinthine' movement sense. The third is a pressure movement sense, the 'baric' sense or sense of weight. It is these three, combined with the senses of touch and sight (it may be the movement sense of

the eye and not pure sight) that give us the knowledge of size, distance, space and weight, as has already been pointed out. When a baby stretches out its hand, kicks its legs, catches its own finger, pulls its own toe, tries to put its fist or toe into its mouth, it is learning its first lessons in kinaesthetic sensation and in touch sensations as well as developing its muscles. Not even the smallest movement is unimportant, therefore, even more from a psychological than from a physiological point of view.

We adults have become so accustomed to using our senses, to seeing, hearing, etc., that we find it difficult to realise that we had to learn to do all these things with as great difficulty as we now experience in learning new and difficult subjects. But it is also true that we do not always use them very well. When this is so, we say that we 'observe' badly or that our powers of observation are not good. This really means that we have not learnt to be alive to, or awake to, the impressions that we are constantly receiving through the senses. We cannot or do not interpret them properly. When the powers of observation are weak in a child, then generally the child is said to be of low intelligence. But this weak power of observation may not be due to the lack of capacity. It may be due to the lack of the proper kind or amount of stimuli from the environment, required to awaken the consciousness to awareness of what is happening around. For example, if a little child never hears a musical sound, or hears it too rarely for it to make a permanent impression on his auditory nerve and auditory brain, then he grows up without the power of knowing music.

The environment must therefore provide the proper kind of experience for each sense as well as sufficient

amount of the right kind of experiences even in the earliest days of the child's life, if it is to be able to gain the proper experience through its senses, develop its powers of observation and thereby learn quickly. The importance of the right type of environment for the little child for the development of the mind, character and permanent life habits cannot be too greatly emphasised. Let us take as an example of how the quality of the earliest sense experiences affect the later life of the child. If a child is allowed to grow up in an atmosphere pervaded with bad decaying smells with little or no experience of pure healthy odours, it becomes, as a result, accustomed to the bad smells and so loses its power to distinguish smells. By allowing this we really condemn it to a life in a slum. Such a child will make impure every place it goes to live in, because it cannot learn the lesson of pure living after its sense has been dulled through habit. It is such people who create slums and they cannot help doing so because of their early experience.

Thus we see that both intelligence and habit of life depend to a large extent on the nature of the environment and on the health of the body. Trained intelligent observation means the power to look out on the world around us consciously and deliberately through our senses, to perceive the light, colour, shape, sound, substance of things; to distinguish beautiful and ugly sights, pleasant and unpleasant tastes and smells and therefore to understand and be able to enjoy them all. This can only be acquired through an environment which supplies plenty of opportunity for the exercise of all the senses and all the free movements and play that are required by the little child.

LECTURE III

THE AWAKENING OF CONSCIOUSNESS OR MIND AND THE FIRST LAW OF LEARNING—STIMULUS AND RESPONSE

Outline

1. The working of the law of stimulus and response in the nervous system.

2. Three Stages in the establishment of the SENSORY-MOTOR ARCS

(*a*) simple, involuntary or reflex arcs;

(*b*) compound, involuntary or reflex arcs;

(*c*) voluntary arcs—the birth of consciousness.

3. The nerve patterns and behaviour.

4. The first evidences of the awakening of the child's consciousness.

Since the nervous system plays such an important part in the development of mind enabling the little child to know what to do and how to control its movements and its actions, we must examine in more detail how the nervous system works. In doing so one of the first things that will perhaps seem a little remarkable to us will be the fact that knowing or intelligence, and doing or action, are inseparably bound together in the human being.

We learnt in the first lecture how the nerves stretch from the surface of the body and the sense organs to the great nerve centres. Some of them, as we have already seen, convey messages to those centres while others convey messages to the muscles, etc., in order to make them move. The whole nervous system is like a wonderful receiving and transmitting station. The receiving and transmitting is somewhat complicated in the grown-up, but these two processes begin fairly simply in the new-born child.

Each afferent or affective nerve is connected with at least one motor or efferent nerve, and the current which passes along the afferent nerve can pass through the spine and right down along the efferent nerve without any hindrance and without stopping. When it does this it is said to have circled round a complete sensory-motor nerve arc. As a rule however when a stimulus or current passes along like this neither are we nor is even a baby conscious of it, for it is only when the current passes up to the brain that we can become conscious of it. There are very many of our movements that are produced in this way and they are called 'reflex actions or movements' For example, blinking when a light is

suddenly flashed before our eyes is a reflex movement; we do that without thinking or it would be truer to say that our nervous system does it for us without giving us the trouble of thinking about it. This is a very significant fact of mental life for if we had to attend to every little movement that we had to make in order to live then we would have no time for real thinking.

But each afferent nerve in course of time makes more than one motor nerve connection, so that instead of one movement the same afferent current can produce three or more different reflex movements. To take the same example as before, the flash of light may make us not only blink but turn the head away, shout, perhaps put up the hand to ward it off, and it might even arouse a feeling of fear. Now when all this happens, it means that part of the current has gone up to the brain and you are aware of what has happened, though probably not fully. Some of the current has gone along the motor nerves of the head and hand muscles and some to the adrenal glands. It is probable that a little child would be much more aware of all these effects than an adult; for adults have become so accustomed to allowing their nervous systems to take care of them that they would probably hardly be conscious of the light current passing along their nerves or of the reflex movements it produces. This would be especially so if they were busy with some bit of work. It is because so many motor nerves are thus connected with the sensory nerves and with each other that we are able to make quite complex movements which are still reflex in nature, that is, are produced with very little self-consciousness.

This power marks what might be called the second stage in the establishment of the working of the nervous system connections; and very, very many of these have

to be made before it is possible for a little child to make conscious movements, i.e., to be aware of what it is doing. Moreover very many nerve currents must pass along the afferent nerves through the spine and up to the brain before the child begins even to show any sign of what we call 'intelligence', i.e., to show that it is aware of something outside it.

Now if there is any break in any of these 'arcs' then although the current may pass along the afferent nerve it will never be able to pass along the effective nerves, and the result will be that no movement will be produced. This break might be produced in either of two ways. A child might be born with a defective nervous system so that the nerves do not function. The proper functioning of the sensory-motor arcs can also be destroyed however by wrong treatment of the child. This was done in Europe in olden times when mothers tied up their babies in bandages to keep them still and save themselves trouble. The result of this would be a mental rather than a physical incapacity to move, and would be said to produce a mental defect due to wrong environment, for it must be realised that the type of treatment is as much part of the environment as the things and people around us. We shall see in a later lecture further results of this in the development of the child. It is enough to remember for the moment that the most essential thing for a baby is that all the natural, simple and compound reflex movements or natural responses as they are called in psychology should be allowed free play. Not only does the nervous system develop thereby, but it is by means of these involuntary or reflex movements that we know that the nervous system is growing properly and developing normally. And if the nervous system does not develop then you can be certain

that the rest of the body is not developing properly either. In short there must be a thorough establishment of the complete involuntary nerves arcs in the earliest months of the child's life.

Very soon, however, the moment arrives when the little child becomes aware (i.e. as aware as a little child can be) of its sensations and movements. This means a further development of the nervous system, and of the play of the nerve currents up and down all the sensory motor arcs. It means that the nerve currents have at last reached and made an impression on the brain cells, and henceforth we have the beginning of the power of voluntary instead of only involuntary movement. The voluntary 'arcs' are being established. When this has happened, then every sensation mounts to the brain and calls out a conscious response. As soon as this has really begun we say that the child is beginning to take notice; its eyes light up; it smiles when it sees its mother; it will turn towards a bright light; it will show by little signs of temper, in facial expression and muscular movement that it knows it is not getting what it wants. This is called the birth of consciousness. It is important to remember that this birth of consciousness depends on the condition of the nervous system and on the complete establishment of all the necessary sensory-motor arc connections, and that this should take place naturally in the very early months of the child's life. It may be said too that the type of behaviour in after life depends on the development of these first months. For, if the nerve connections are not made at the proper time when the whole system is being set into harmonious working order by natural law, then it will be very difficult to make them later and often they will never be able to be made at all. Then the child will appear dull in

learning, slow in action and unresponsive. It is indeed because the necessary nerve patterns have never been established in childhood that many people cannot do many things which they would often like to do when they grow up.

LECTURE IV

The Real Complex Nature of 'Mind' Its Three-fold Constitution, and How each Begins to Develop

Outline

1. The beginning of mind.
   - (*a*) Different types of sensation,
   - (*b*) The feeling tone,
   - (*c*) Movement.

2. How each of these aspects of mind depends upon environment.

We come now to a more detailed study of the gradual awakening of the consciousness of the child to awareness of its surroundings. This means in other words the awakening of its intelligence, the arousing of its emotions, and the organising of its power to move and act or behave like a human being. All this is brought about by means of the stimulation of the nervous system from without and from within. It will be seen too, in making this study, how all of these aspects of mind grow, can never be separated from each other; and always work *together.*

As soon as the child is born, it begins to have a great many kinds of experiences both from outside its body and from within its own body. A great many currents of different kinds rush along its nerves, through both the sympathetic and the cerebro-spinal nerve centres and out again through the motor nerves as we known from the reflex movements made by the child. Its very first experience is the sensation of cold. The cold air touches its skin and immediately affects the 'warm and cold spots' or nerve ends which occur in various places or spots under the skin, rushes to the spinal cord, and then along the motor nerves to its limbs and throat and lungs, making its limbs move and making it also cry and begin to breathe. This is an example of the complex reflex movement of which we read in the last chapter, and it should be noted that such complex movements are produced even at birth. Soon however the child becomes accustomed to different temperatures but it should never be exposed to great extremes of temperature or the whole constitution would be injured by the nervous shock. We read that, in ancient Sparta, when babies were not wanted they were killed by being exposed to the cold.

Another very important kind of psychological experience gradually becomes associated with the power to distinguish certain hot and cold sensations. This is sometimes called the 'feeling tone' It may be a feeling of comfort or of discomfort, according to which the child experiences most. A 'feeling tone' accompanies every kind of 'sensation' that the child experiences and the feeling tones form the basis or beginning of the development of the feelings and emotions.

The hot-cold type of sensation belongs to those which the child experiences through its senses, i.e. the end organs spoken of in Lecture I. But we have also called another type of experience 'sensations' although they do not come to the child directly through the ordinary gateways of knowledge. These latter are the 'organic' sensations which are the result of experiences arising in the internal organs of the body. We have seen that it is chiefly through the sympathetic nervous system that these experiences are possible to the child. This part of the nervous system works as automatically as the cerebro-spinal system at birth. For example, it is through the stimulation of this system that the purely reflex actions of crying for food, of ejecting food when it does not suit the body (i.e. sickness and vomiting) or the ejection of the faeces, are set in motion. But the child quickly becomes aware of these organic sensations of disturbance or discomfort which mean either that the body needs food, i.e. what we usually call hunger, or that the wrong kind of food has been given in the first case.[1] Just as in the case of the pure sensation,

[1] Psycho-analysts make some very interesting observations about the importance of the child's dawning consciousness of the second, viz. the ejection of the faeces, and the part it plays in the development of the 'Toddler's' mental health.

these organic sensations also soon become associated with a 'feeling tone' of comfort or satisfaction when food is taken or when the internal organs are working well. These feeling tones that grow in association with all the sensation experiences of the child are important deciding factors in its future outlook on life, i.e., whether it will be a happy or an unhappy one.

In addition to the 'organic' sensations and their feeling tone the type of experience sensation due to the experience of cleanliness or dirtiness and external discomfort has also important psychological results in the 'feeling' development.

The third type of sensation which the child experiences is the spontaneous or reflex movements of its own limbs, i.e., of those movements caused without its own conscious control. Everybody knows how the child enjoys kicking out its legs and arms when lying on its back and the psychological way of expressing this enjoyment would be to say that the feeling tone accompanying the movement sensations was one of joy or enjoyment. This, too, gives us the simplest illustration of how sensation, feeling tone and movement are all combined inseparably together.

The accumulation of all these different types of sensations acting together constitute the 'substance' of the mind of the child when it is first awakened.

Although the organic impressions which mount to the brain through the sympathetic system, and the movement impressions which reach the brain chiefly through the sensory nerves of the joints and muscles and become sensations in the mind seem to arise directly from the child's own body, yet, even they are due to the action or stimulus of the surroundings of the child in the first instance, i.e., to the air, the light, the sun, the heat,

the cold, etc., secondly, to the things which touch it and which it touches, and thirdly, to the love and care of its mother. All of these together form the environment which awakens and stimulates the intellligence, the emotions and the activity of every child that is born. That is the reason it is so important that every child should have a 'proper' environment, a 'proper' home and 'proper' care. This means, in brief, a properly lighted place to live in, with well-regulated temperature and fresh air, a comfortable bed to lie on, regular bathing, the comfort and tender care of a mother, plenty of songs and lullabies, soft clothes, well regulated and suitable food and the regulation of its daily habits of life. This is why future mothers should learn how to care for babies before the time comes for their children being born.

MADRAS.

LECTURE V

The First Mental Development Stage from Birth to the end of the Fourth Month—Babyhood—Its Signs and Characteristics.

Outline

1. How the sense gateways are opened during the first four months.
2. The significance of the movement signs in this.
3. The awakening of the intelligence.
4. The development of the 'feeling tone'
5. Their expression through movement and voice.

The only way we know at first how all the previously mentioned internal and external stimuli affect the child, is through observing the involuntary movements of its body. Indeed so important are these movement signs, as we may call them from our psychological point of view, that we can say that they show us whether the child is beginning to develop quickly and normally, mentally as well as physically.

The very earliest movement sign that we look for in the new-born baby is the pulsing of the skin which covers the top of the child's head where the bones have not yet joined, i.e, at the Fontanelle of Bregma or the soft spot. This is the effect of its breathing and the spasmodic pulsing of the blood through the body. It shows not only that the internal systems are beginning to function healthily, but also that the blood is circulating healthily in the brain. If the pulsing is too feeble then the child may be weak and sickly, and the rate of its growth will be slow. This is very important if we remember that the brain cells have to become active before they can register any of the sensations which we have been studying. Crying is the second movement sign, or motor response we notice. Lusty and determined crying is a physiological indication that the lungs and vocal organ's of the child are in good working order. The next movement sign of which we ought to take note is the straightening of the back and the efforts which a healthy baby makes to straighten the limbs. These we can see even a few days after birth. If all these movements seem to be fairly strong and vigorous then we can conclude that the baby is a healthy one. We can further deduce from these movements that all its

subjective sensation experiences are also being strongly registered in the nervous system and that there is every chance that it will be a quick and intelligent baby. But if these movement signs are all weak then it is likely that the development will be very slow mentally as well as physically.

These rather vague reflex movements very soon become more definite and others too begin to show themselves. The first of the more definite and deliberate movements is that which a baby makes with its mouth when it is taking its food, viz., sucking. This action has a double significance. While sucking, the child gets its first experience of 'touch,' a kind of touch experience quite distinct from the heat and cold mass impressions at birth. This lip touch experience is soon accompanied by a second touch experience, viz., its constant 'feeling', i.e., touching its mother with its hands when it is sucking. If we watch the little child at that time you will see that it is becoming aware of the 'feel' of its mother and that it enjoys also the 'feeling' of sucking. This is especially marked in a little child between two and three months old.

At the end of the first two months also the child is able to recognise the sound of its mother's voice and this is shown by its trying to turn its head in her direction. This may be taken as the first sign that the ear organ and the ear nerve are functioning as they should. If this sign is not noticed at this time then there is a probability that the child's hearing will be retarded or that it may be born deaf.

About the same time some of the signs of emotional development begin to show themselves also. For example it smiles at the sound of its mother's voice and when it has had its food. This smile may even develop

into a laugh. The child may even express anger and fear in its cry at this early stage. The action of laughing also means that the face muscles are being brought into use. Moreover the healthy, happy baby will soon begin to gurgle and 'goo' when it is lying awake, after it has been fed. All of these are behaviour or movement signs of 'feeling tone' development. But the 'gurgling' and 'gooing' is the first conscious use of the voice organ as well as a sign of pleasure. It is the first unconscious exercise too in preparation for speech. We may say in other words that it is going through an instinctive though unconscious training of its vocal organ. So we see that every little movement that a child makes is a clear indication of the psychological progress of the child. If these little movements are not evident then the lack of movement response may be regarded as an indication of some defect or retardation. For example, the absence of the gurgle or goo vocal expression of pleasure may indicate either that the child is too unhappy or uncomfortable to express the ordinary instinctive pleasure, or that its nervous system may not be recording, i.e. may be defective in some respect, or that its voice organ may be defective. But these defects occur in very few children born into the world, and so will be very seldom noticed. Usually all the signs spoken of above will be quite evident in most babies.

About the end of the first two months also some other very important signs especially significant in psychological development begin to show themselves. These are, first, the power to grip the mother's finger quite firmly, then, the power to carry its own fist to its mouth and soon afterwards the power to hold its head erect and to move it backwards. All of these small external move-

ments belong to the second or third month of the child's life. There is yet another series of movements which are still more delicate and which are perhaps more interesting than any of those already mentioned, though they cannot be said to be more important. These are the movements that we can see taking place in the eyeballs of the child when it is beginning to make its first efforts to see. At first we see only the reflex action of the contraction of muscles of the pupil of the eye in response to the light stimuli. By the second month as a rule however a normal child should be able to steady its eyes on a light. This power is called the power of 'fixation' and is the first step in tocussing the eye on objects which is the first stage in becoming able to see them. These eye movements show the adjustment of the delicate instrument of the eye organ to the vibration of light, which it is the work of the eye to receive and convey to the brain. The movements observed show the effect of the first waves of light passing along the afferent eye nerve to the brain and back again along the motor nerves. Next comes the control of the muscles of the eyeball. This is shown by the child gradually becoming able to turn its eye balls about and follow a light which it has fixated. The movement of the eyes is also accompanied by the movement of the head. But this latter movement is usually begun first with the awakening of the hearing sense when the child becomes aware of its mother's voice and turns its head towards the direction of the voice. We must not imagine that the child does all this without effort It requires great effort on the part of the little child, and how great this is can easily be seen when it is trying to turn its head or focus its eyes. Before the power to focus has been acquired the child simply stares or

its eyes seem to wander about vaguely. We usually say there is no expression in them. But as soon as it can focus on something, then a new 'light' seems to come into its eyes—it can see. This simply means that it is aware through its eyes though what it sees is not at all what we grown-ups see. This lighting up of the eyes is the first real sign of 'intelligent' response which a child makes and we can now say the child is beginning to learn to know 'consciously' This too seems to be the outward sign of the uniting of many kinds of experiences into one act of awareness as it were. By the age of four months the child should be able to use its eyes if its organs of vision are not defective or the nerve connections are not diseased or paralysed.

So by the fourth month of its life the child has already done considerable work in the process of clearing its sense windows and has learnt to get many dim glimpses through them of the world existing outside it. The clearing process has been going on in each one of the senses almost simultaneously, not one after the other.

It cannot be emphasised too much that the whole of the after life of the child may be very seriously affected by the lack of care during these first four months. Those who care for children should learn to watch for these dawning signs of the awakening intelligence of the child as well as for the signs of physical health, for in the life of man it is his intelligence which counts most, and intelligence should always go with health. A sound mind grows best through a sound body.

LECTURE VI

THE MEANING AND IMPORTANCE OF THE ESTABLISHMENT OF 'HABITS' BOTH PHYSICAL AND MENTAL

Outline

1. The second law of physical and mental development, viz., *Regularity* or the law of regular repetition.
2. The necessity of regular repetition for the establishment of *habits*
   (*a*) to establish habits of physical control;
   (*b*) to build up a healthy 'sub-conscious' or habits of healthy sub-conscious mental reaction;
   (*c*) to secure a sound physical basis of memory or habits of recording experiences;
   (*d*) to establish quick and intelligent responses or habits of intelligent action or activity.
3. The kind of habits depends on the nature of the environment.
4. The 'quality' of the mind or intelligence—its dependence on the 'quality' of the environment.
5. The psychological importance of scrupulous care in arranging the environment, even of babies.

We have seen that the great change that takes place in the child in the first four months of its life is what we have called 'the Birth of Consciousness' and the beginning of 'Mind' The wonderful thing about this is that it is the result of the impressions made on the nervous system of the child by all the things which surround it in its environment, viz., the light, the air, the heat, the roughness and the smoothness of its clothes, the hardness or softness of the place where it lies when it sleeps, the touch of its mother, the feeling of touch and taste with its mouth, the sounds that affect its ear nerve, the feeling of comfort or discomfort that it experiences as the result of its feeding and defaecation and of the amount of care taken with it and, lastly, its own unconscious or instinctive movements.

A great deal depends on the type of each of these experiences. It is because so much depends on the 'type of the awakening' of consciousness which the child experiences that we have to be very careful about the type of experience that comes to a little child even at this apparently unconscious stage. To put it in the words that are generally used in books of psychology, we have to be careful of the nature of its environment, i.e., of all the impressions that play on the child through every sense, of the kind of 'feeling tones' that accompany each and all of these and of the kind of behaviour responses that are established as a result.

We have already seen that the awakening of consciousness is only the result of very many 'repeated' sensation experiences. Indeed no consciousness of any experience would ever 'awaken' if the child did not have a regular recurrence of each one. The regular

taking of food, the repeated touching of its mother serveral times a day, the regular and repeated sensing of light and sound several times a day between its sleeping times, are outstanding instances of this. Even at this early age, however, we can help or hinder these natural functions of mind and body The quickest way of learning anything is by repeating it 'regularly' for by regularity the nerves become quickly accustomed to the play of the stimulating currents, and the nerve arcs quickly established. The slowest way, or we might call it the way to hinder, is to have no regularity at all. Regularity in taking food is a physiological necessity for physiological health. But there is another very serious psychological reason why the child should have its food regularly. According to the established quality of this first kind of organic experience will be the nature of its first 'awareness' of its organic sensations, and the type of 'feeling-tone' developed and permanently associated with them. If it becomes 'conscious' through feeling pain or the discomfort produced by unsatisfied hunger or neglect, then the reflex reaction to this will be constant crying, and this means the establishment of a certain irritability in the nervous system, and the feeling either of anger and discontent or helpless misery. This unpleasant feeling of a frustrated instinct may even develop by repetition into a type of vice, viz., the feeling of greed which is like a constant hunger, or the feeling of a permanent incurable resentment against everybody, or the vice of lethargy and instability. Moreover, if this is the experience and feeling that the child is first made aware of, it will tend to occupy all the energy and attention of the child; it will bring with it other discomforts, and so will tend to exclude from the consciousness of the child any possibility of the 'happy'

type of experience so necessary for healthy, normal, mental development.

The experience of 'regularity' is itself, therefore, really one of the necessary 'sensation' experiences which make progress and development in life pleasant and possible. But it is even more than this. It is only after the physical experiences which arise out of the daily regular routine of living have become part of the daily habits, those actions which we all perform without thinking, that we become 'free' for further learning. When we have learnt to do something, even those little things that we have seen a baby has to learn to do, we have simply made the nervous system accustomed to do these things for us automatically. It is this fact that leaves us 'free' to turn our attention, i.e., our consciousness, to new and perhaps more difficult things. These 'new' lessons will in their turn become 'habits' after a certain time. So we go on learning more and more and we also become during this process more and more capable of learning. In ordinary language we call this the establishing of habits. If the habits established are of the right kind, then we have laid the foundations of 'harmonious living' Habits, then, are at first nervous system habits, i.e., the nervous system has become accustomed to certain types of nervous currents or stimuli and of certain ways of responding to them.

But as soon as the physiological habit has been established then we can say it has really become a 'mental' habit. It has become part of our 'unconscious' mind. It is this same kind of physical and physiological 'repetition' it should be remembered, too, that is also the basis of that aspect of mind which we call 'memory' If the nervous system is not accustomed to the experience of regularity, then the regular repetition of lessons of any

kind later will always be done with a certain difficulty, because of a certain nervous instability created by the lack of regular experience. It shows itself in children as the lack of the power to control the body long enough to sit still and learn, i.e., in restlessness and lack of concentration. Thus the establishment even of mental habits depends on the earliest physiological training, and the establishment of clearly defined 'nerve patterns' or regular lines of nerve communications in the nervous system. We can always tell also when we see the customs and habits of mind or ways of thinking of older children, or of adults, what type of physiological and environment experience they must have had when they were very young. It is because habits are so 'rooted' in the nervous system, and then become as a result so 'rooted' also in the 'unconscious' mind, as we call that part of sense of feeling and acting of which we are normally very little aware, that it is so difficult to change habits once they have been established. The 'unconscious' mind grows in extent and strength too as more habits are established. That is why also it is so important to see that every child should have the right kind of experience in order that right physiological and mental habits may be established in the 'unconscious' Habits of regular feeding, of regular sleeping, of regular lifting and putting down again are, therefore, as important psychologically as they are physiologically.

Besides the 'regularity' and the feeling tone, aspects of every experience the 'quality' of each of the child's sensations experience is equally important. This is especially so in the case of those sense experiences which form the basis of what we call knowledge, viz., sight, hearing, touch, movement, taste, smell.

It is to a very large extent on the 'quality' of the sound,

colour, touch, taste and smell sensations that the 'quality' of the mind depends. By quality of mind we mean its sensitivity, its refinement, or lack of refinement. We shall understand this if we refer again to our previous illustration of how slum people are grown. If a child grows accustomed to what we call bad or impure and unhealthy smells then maybe it will become quite unconscious of the fact that it is living in the midst of putrid decaying matter that gives rise to disease. Those who continue to live in such conditions cannot be blamed, therefore, if they have been forced to begin life with such a psychological handicap. This particular sense experience, therefore, should be very carefully protected and educated if we want our children to grow up with healthy, hygienic habits and with the feeling and sense of purity without which it is impossible to maintain hygienic conditions.

To take as another example an experience that is very often lacking in the life of some children, viz. the need for hearing plenty of singing. It is necessary for every child to hear musical sounds and to feel the rhythm and beat of music from the very earliest age. There are many mental powers dependent on this besides simply learning to hear and to know music. Mothers therefore should be encouraged to sing suitable songs on all occasions to their children, for it is only in this way that the ear nerve becomes responsive to voices and the child's body to balance and rhythmic motion. These last two are necessary even for walking.

Likewise if we want children to love beautiful things, then even at the stage which we adults call 'unconscious' we must surround them with simple but beautiful things and beautiful colours, so that many experiences of colour and shape as well as of light will be conveyed to the

awakening consciousness. It is at this very early stage too that the aesthetic 'feeling tone' is awakened. Even the kind of bed a child is laid to sleep in has a very considerable part to play on the mental development of the child, because it is through the feeling of touch that a great part of the feeling of refinement in later life is built up. The Japanese artists have this 'quality' of consciousness very highly developed.

Providing all the small but necessary and refined experiences for ear, eye, touch, taste, smell, movement and feeling is called arranging the proper environment for the child from birth. These are the simple beginnings both of its knowledge of the world around it and of the development of what we call its mind or intelligence, which is its power to understand the things that are going on around. Because of their great importance for the whole life of a child we must learn to realise that no care is too small to leave undone in the life of a little child.

LECTURE VII.

The Second Stage of Mental Development from Four Months to the end of the First Year—Infancy—Its Signs, Characteristics and Requirements.

Outline

1. The need for toys.
2. The first toys and their educative value.
3. The greatest apparent mark of this stage is the great development in the power of movement, the increase of muscular control ending in walking, talking, and the power to use all the sense experiences together in learning to know all the things and people round.

We have learnt the earliest signs which tell us that the senses of the child are becoming more and more active, that the intelligence is awakening, that its sense windows have opened, and that it is beginning to acquire knowledge through them. Now let us see what are the signs of the further normal development of the child up to the age of one year.

At the age of four months when it can grip things well, can fixate objects with its eyes, can follow movements and use all its other senses to an equal extent, it then begins to try experiments with the things that it can hold in its hands. Its most important means of learning up to this time has been its hands, but especially its mouth. So its natural impulse is to carry everything it lifts to its mouth as its most sensitive touch learning organ. Then it makes great endeavours to focus its eyes steadily on the object, in order to learn to associate touch with sight.

Now, psychologically, the interesting thing about all this activity is that nobody has to teach the child to do all this—it does it by 'instinct' we say—*provided the suitable things are within its reach.* As psychologists, too, we must realise that these are its first efforts to learn to 'see' things as we adults see them, i.e., to be able to recognise every object and every person about it, which it must do before it can learn names for them. We call this 'perceiving' and it is important to remember for the early education of the child that in order to learn to 'perceive' things, every child requires to touch them both with its hands and its mouth, to wave them about and to focus them with its eyes. If any of these instinctive efforts on the part of the child are hindered in any way in the mistaken idea of helping the child,

or if it is not provided wth suitable things to handle and play with, then it is being deprived of the experience necessary for its development at this age. As a result its whole instinctive learning capacity will be affected, either checked or misdirected. A little thought will show us what kind of things are necessary for this 'self-education' of the child, at this 'stage'

They must be things it can handle easily, and which provide the stimuli that each sense requires, e.g., round objects without colour, hard, soft, smooth and a little rough, small square cubes, a rattle that it can wave about and make a noise with, bright coloured balls, both hard and soft, and perhaps attached to a string. These are special 'toys' for assisting the development or education of the intelligence. But it must never be forgotten that every general experience is an education of its senses as well. Without 'toys' the child will learn more slowly. Too many and unsuitable toys also complicate the development of intelligence. It will often be noticed that the child by its behaviour demands some kind of activity which the parents do not always know how to provide. If a child is normally healthy but seems restless, irritable and difficult to please, always worrying the mother and keeping her on the move, then we may be sure that its instinctive need for things to play with is not being satisfied. Mothers would be saved much trouble if they knew this and were able to provide the proper kinds of toys.

We can also see why it is that poor children who neither have the proper environment nor the proper care nor the possibility of any educative toys can hardly fail to be less intelligent and less quick at learning when they become older, and as a result are less advanced in knowledge than more fortunate children.

As weeks go on, the healthy child learns to sit up. That means it has gained some control over its back muscles. This acquirement gives more opportunity for the display of even stronger evidences of its eagerness to learn. It can now wave its arms about in front of its own eyes, and it loves to wave the things it grasps in its hands about also. It is the vigorous movement activity which it enjoys. If when it waves things it produces a noise, this is an added delight. Another delight is to meet a strong resistance to its vigorous arm movements as it does when it comes against a table or a tray which is placed before it. In addition to the resistance feeling a noise may be produced, as when it beats a metal tray, and then this is sheer delight and it will prolong the beating with its utmost power.

Splashing in water, playing with the sponge with which it is washed and with things that float on the water—all provide complex and stimulating sense experiences, necessary for its immediate development and for future knowledge. The cold and change of temperature of the air around it, as well as of the water in which it is bathed, the rocking to sleep in its mother's arms, the songs she sings to it, are all 'lessons' by means of which its knowledge is growing. The use a child makes of a 'toy' and its delight in playing with it are the sure signs of its 'educative' value. But above all it is the feeling of its own vigorous physical movements that it enjoys most at this age, and it is this enjoyment of physical movement that is the surest proof to us of the child's normal and healthy development.

About the age of six months, the child becomes so eager to learn that it wants to have and hold everything it sees. It will seize, try to lift, pull, push, turn over and over everything that comes within its reach. This

eagerness will also make it try to reach things beyond its reach, and so awaken the impulse and instinct to move its whole body in the direction of it by crawling. All this shows us that every mother should know how to deal with this eagerness to learn in her child. Instead of finding it a trouble and therefore hindering the expression of all these instincts of learning she would realise that when it wants things to play with, it is seeking to establish ideas of size, shape, hardness, softness, distance and length, as well as seeking to develop its muscular strength. And so, she would endeavour to provide suitable things and arrange them in a suitable way for it, placing them in such a position as to enable the child to reach out to them and handle them freely at first. As the child grows older the attractive toys should be placed a little further away, so as to encourage the greater effort to reach them which leads perhaps to crawling. Finally, as the bones of the legs and the limbs grow stronger we will see the awakening of the supreme effort to stand upright and finally to walk. This great effort it should be beginning to make by the end of the first year. It must never be forgotten however that the efforts to do these difficult things are as much mental as physical efforts.

These observations on the growth of the child in these early years show that the mental and physical development are inseparably linked together. Whatever hinders the growth of the body hinders the growth of the mind, and the soul of the child. Whatever helps the growth of the bones and muscles of the body helps the development of the power of the mind to co-ordinate its experiences through all its senses and to gain control over all the bodily movements. It is the remarkable development of the power of movement and control of

the body required for acting and walking, combined with the power to 'perceive' things around it, that are, or should be, the chief characteristics of the later half of the first year of a child's life and the first half of the second year as a rule, though some children develop much more slowly.

LECTURE VIII

The Third Stage of Mental Development—from First to Third Year—'The Toddler'—Its Signs and Characteristics.

Outline

1. Perception and language.
2. Imagination and language.
3. Imagination, the beginning of 'abstract' perception.
4. The Third Law of Learning—the law of imitation.
5. Its significance in the social adaptation of the child and in the acquiring of its daily social habits.
6. Suggestibility, its meaning and significance.

We have seen that all the psychological experiences which a child is going through up to the end of its first year have been directed to the development of the 'mental' power which we call the power of 'perception' This means the 'gathered-up' power of knowing all the complex qualities that make up things or objects, the relations which objects bear to each other and to one's self, as soon as we look at them, as it were. But although we usually talk of 'seeing' events happening, it is really untrue from a psychological point of view to talk in that way; for, as we have already learnt, (and I repeat it because it is so important for educators to remember) our eyes have only a share in the work of seeing. That is why it is more correct to say we 'perceive' things and events. The experiences gained through hearing, through touch, but especially through movements, both small and large, are just as important in the 'perceiving' process as those gained through the eyes. It seems a strange statement to make to say that playing with things and the crawling and walking efforts which a child makes have as much to do with 'seeing', i.e., perceiving, as the use of its eyes. Nevertheless it is true. This means, then, that if a child does not make the efforts to walk that it ought to make, or is not allowed to carry out the natural movements which should result from sense stimuli, then its power of perception, its intelligent seeing or knowing will also be to a quite considerable extent affected. This is often mistakenly done by mothers and nurses thinking they are helping their children and saving them trouble.

Instead they really hinder because it is the movement and muscle sensations, as has been already said, that

teach us the ideas of size, direction and the weight of things. If we do not know the nature of these qualities which all things possess then our knowledge of objects or things is incomplete, our perception unsound and often untrue. Is it not a wonderful thought that we do not learn to walk just for the sake of walking, or to do things with our hands just for the sake of manual labour, or even of skill, but chiefly for the sake of building up our minds and our intelligence and our power of thinking and judging? It is even true that if we have not had the necessary amount of all the sensation experiences which we have been studying, co-ordinated together by our power of perception in the earliest years of our lives, then true intelligence, which is the understanding of all the events which happen round us, will really be impossible to us. This lack of power to understand will show itself chiefly in the lack of what we call a clear 'imagination' of things and events in our minds and therefore the lack of the power of sound judgment on the practical problems of life. For judgment depends to a large extent on the ideas of things which we have established in our minds.

This is another fact of mental life which shows us once more how important every part of our body and even the smallest actions are in the development of the mind. We often say 'as a man thinks so he becomes'; but we are finding that it is even more true to say that 'as a child acts so he learns and becomes', and 'as the child does so will the man think', for, in the realm of thinking, action becomes thought and thought action. In short, if we force a child to be quiet when it ought not to be quiet, to sit down and 'do' nothing but just try to 'look' at a book, we are really taking measures to 'limit' and 'narrow' the mental life of the child rather

than helping to educate it. Indeed, more often than not, it is due to the lack of a sufficient amount of these synthesised perceptual experiences that we so often find defective intelligence, memory without judgment and all the other mental weaknesses or even defects of which we complain so much in life and learning to-day.

It is necessary to dwell on the meaning of the development of the power of perception at this stage, for it is at the age of infancy that the whole future of the child is made or marred. Before examining further the growing powers of the child in the second and third years, we must learn something about another power which is very closely associated with the power of perception, and which begins its development in the second year also, viz., the power of speech.

We saw in a previous lecture the nature of the first unconscious 'vocal exercises' which have to precede the conscious use of the vocal organs. There is also a kind of transition language stage which most children go through before acquiring the real power of speech. We call it the period of 'baby' language. The child develops a language of its own. There are certain sounds which a child can recognise, and which it can make more easily than others such as 'ma-ma, ta-ta, pa-pa' and so on. These soon become associated with certain complex mental experiences of things and events which have been described. By these special 'sounds' it can recognise special types of experiences, and by these too it can make the fact that it knows, known to others. For example, it may use such repetitive sounds as 'ta-ta' or 'ma-ma' or 'da-da in order to express its desire to go for a walk and its recognition of its father or its mother, or even of women and men like mother and father. This 'baby' language sometimes becomes quite

an elaborate system with some children and lasts even when the child can speak the adult language quite well. But the extent and duration of such 'baby' language varies with each child.

To assist the child in the very difficult task of acquiring its mother tongue, however, it is generally recognised that, when a child is at the stage of perceptual development at which it is concentrating on the 'handling' of things and making efforts to move itself in order to reach out to and seize what it wants, care should be taken to pronounce in its hearing the names of the objects, or at least some sound by which they can be identified. In this way it will quickly learn to recognise things by sound or name. This helps not only in the quick acquisition of real speech, but it also hastens the acquisition of the power to recall the picture of the object to its mind by the mere sound of the name without even seeing the object. This power of recalling a picture, as it were, in the mind is the beginning of that special mental power which we call the 'imagination' At first it is just a kind of advanced type of memory by which the child remembers many sense experiences all at once as in a picture. But it is very important that it should be well established at this very early age for no sound thinking can be done in later life without it. The development of language then plays a great part in the development of the vivid power of imagination which is so necessary to us all.

At the beginning of the second year, or sometimes the end of the first, the greatest efforts of the child begin to be centred on learning to talk. If mothers knew this and knew too how a child learns to speak, they would probably be able to help their children even more than they do at present by their natural mother instinct

only. It is an interesting fact, that just as mothers generally have the instinct to sing to their babies and rock them to sleep, so too they generally have an instinct which makes them know when and how to use 'baby' language to their little ones. They generally do it in order to make them smile; but this natural maternal instinct has, like every other instinct, a deeper significance than mere amusement, for it furnishes the child with just the right kind of first sound and speech lesson which it needs and which is easy enough for it to reproduce itself by imitation after hearing it for a short time. Unfortunately this instinct does not extend to giving the correct names of things at the proper time also, and so 'baby' language often gets prolonged beyond the normal time because the parents like to hear it and to prolong the babyhood of their baby too long. A strongly original child also may sometimes take a delight in preserving and developing its own 'tongue' even when it knows how to talk properly, for it expresses many of its own imaginative ideas better than the imperfectly known adult language does. The true relationship between the development of the child's power of perception and the development of its power of language is one on which we do not know very much at present, and so our ignorance is often a great drawback to children under our care. But we do know that although the power of perception will always be considerably in advance of the power of speech, i.e. many pictures in the mind, without words to express them, yet the quick development of the child depends to a considerable extent on the quick union of the powers of perception and language.

This second year then witnesses a very great change in the growth of the child physically and, perhaps we

may say, especially mentally, provided it has even moderately good treatment and moderately reasonable means of learning. Let us try to picture this dual development a little more in detail and see just how its power of learning increases as the months go by. We have seen that at the end of the first year a normal child is, or should be, beginning to crawl and even to walk. The power of moving itself about even by crawling and much more by walking brings the possibility of gaining a great deal more experience within the reach of the child. And in proportion to its extended range of experience its capacity to learn grows also. If you watch a child you will see how it has a kind of 'mania' for touching everything it can put its hands on, turning them over and over in all sorts of ways, pushing them about, pulling them here and there, trying to lift them and even throwing them about. All this is done in order to find out the 'sensation' qualities, i.e., to learn to know them and how they can be used. This period is therefore one of greatly increased activity and greatly increased power of perception. It is also a period of very clearly developed and clearly expressed 'feelings' likes and dislikes, anger, fear, joy and so on. But the fact that all this development is still the result of physiological and physical conditions, i.e., of its own bodily health and feelings and the environment around it, should never be lost sight of, for that will make us more careful of the health surroundings of the body. Indeed, leaving out at present the consideration of the effect of 'heredity' on the child's development, we cannot too much emphasise the fact that the chief cause of whatever may be wrong with a child at this stage should still be sought for in some wrong condition in the environment, if the child is a normal child. It must be remembered, too,

that the environment includes the effects produced on the child by the thoughts and feelings of the mother, for all its actions are 'conditioned' by these, and these have therefore as great an effect on the child as any physical and hygienic conditions have. A permanent atmosphere of impatience, irritability, anger, hate, for example, will affect the physical and mental development of the child as much if not more than bad hygienic conditions and ugly dull surroundings.

During this second year, too, another very interesting and remarkable instinct, the instinct of 'imitation' begins to manifest itself specially strongly. This instinct becomes specially noticeable only after the child has acquired the power to perceive 'events' it is so important however that we may say that nearly the whole of the child's learning at this time depends on it. We may therefore call it the 'third law of learning' This period at which the instinct of imitation becomes such a strong power in the child's life is indeed a most critical one, perhaps more especially from a social and emotional point of view than from an intellectual one alone. It is at this time that the consciousness of the child begins to get away from its own bodily experiences, to become more objective we say, and it is the time at which it begins to learn all the ways and habits of the people who surround it, whether these are good or bad. When it has developed the power to 'perceive' events, i.e., how things are used and how people act, then it tries to imitate the actions of others. A little girl, for example, will try to imitate what her mother does in some part of her daily duty. All the actions of the elders are imitated again and again one after the other till they are 'learnt' and become mental and physical capacities and even the characteristic habits of its daily life. The

daily habits of children therefore are those ways of doing things which they have learnt as a rule from imitating their parents. Sometimes, when the feeling associated with its knowledge of its parents is one of annoyance and discomfort, the habits it learns may be due to its wanting to do the opposite of what its parents want it to do, i.e., in reaction against its parents. These small feelings of annoyance and resistance to adults may arise from the smallest possible causes. It is very important therefore that parents should understand how their own feelings and thoughts and actions affect their children, for actions and emotions established thus early are carried throughout life as fixed habits of mind. They often become obstacles to healthy mental emotional life. Then they are called complexes.

It is at the age of two and three years then that the child becomes occupied in learning its family and racial ways of living, e.g., their habits of taking food properly or improperly as the case may be, habits of, care of, and responsibility for, the cleanliness of the body, its clothes and the environment, habits of bathing and neatness in dress or going about always untidy with no consciousness of cleanliness or order, etc. In the process of learning these more physical habits, the more psychological habits of punctuality or of carelessness, of activity or of inactivity, of quick observation or of dullness of mind, of trustfulness and trustworthiness or of untrustfulness and untruthfulness, fear, envy, hatred—all are born from and fostered by the conditions in which the child must live.

All children are not endowed with the same power of learning, however. The degree of this power of learning through reaction to the influences of the environment varies with each child. This power of learning response

is often spoken of at first as the degree of the child's 'sensitivity' Although it varies with each child, in normal children it is always much greater than is generally recognised.

After the 'mind' has grown this same physiological sensitivity becomes what we call 'suggestibility' Fundamentally this means the quick response to a feeling or idea. It is a quality that assists the quick acquisition of habits, bad as well as good. We have to be exceeding careful therefore what we try to teach the child. If great suggestibility is not accompanied by the power of self-control then it is a dangerous quality to possess. As a rule, however, this sensitiveness and suggestibility become canalised or limited to certain special kinds of feelings and ideas which become special individual interests. Then when we know the special interests of individuals we can always influence them quite easily Obedience, too, rests to a certain extent on this quality of 'suggestibility' There are two ways of training obedience. The first is through what may be called intelligent suggestibility, i.e., when obedience is given through active understanding. The second is passive, unintelligent obedience developed through the limited and warped kind of suggestibility produced by fear.

Later, at the school age, suggestibility becomes educability, which is nothing more or less than intelligent suggestibility, and without this education in the real sense cannot be acquired.

LECTURE IX

The Meaning of 'Discipline' in the Mental and Physical Development of a Child

Outline

1. Discipline, a type of mental experience.
2. Physical basis—the experience of obstacles or 'checks'
   (*a*) to action or movement;
   (*b*) to desires.
3. Discipline and the law of regularity.
4. Self-discipline and discipline under compulsion with its system of rewards and punishments.
5. Discipline and understanding—the development of reliability and independence.
6. Order and the environment and their relation to discipline.
7. A well balanced system of free activity and 'checks' required. Too many obstacles develops 'inhibition' of action, i.e., destroys the power to act. Too few produces lack of control and licence.

The last subject which we will consider in this short course is the problem of Discipline. There is perhaps no more difficult subject to understand than the question of how to train a child to discipline itself. With the strong emphasis that modern psychology and education give to the encouragement of the free play of the spontaneous or natural movements of the child, it might well be asked where do discipline and obedience come in if the child is to be allowed to do everything it has the impulse to do. Will it not want to do many things that would be injurious as well as bad for it to do? Will it not become self-willed, selfish and a nuisance to everybody around it?

This would indeed be the result if another kind of experience did not always accompany those active impulses which have been described. And indeed we actually do see this result when a child is so much taken care of that it is never allowed to experience things for itself at all. In the natural course of things, however, the positive experiences of movement and response to stimuli are always accompanied by an experience of hindrance or check. Indeed it is this experience of hindrance or check to every instinctive response movement that may be said to be the primary cause of the awakening of what we call the consciousness, or awareness that we are having experiences at all, the self realisation that we 'know', that we can 'feel' and that we can 'make efforts' One of the greatest living American psychologists, Professor John Dewey, even goes so far as to say that a check is the necessary condition of all thought throughout life.

When a child suddenly hits against something as its arms wave about, this something offers a resistance to

its movement and hinders or checks it. This calls out greater effort to push against the obstacle and at the same time it is made conscious of its own movement. The obstacle has therefore a double effect—a physical one and a psychological one. Such 'check' experiences begin, like all others from the first moment of the child's life. But we have very soon to use this law of opposites or checks to prepare the child for life. The first series of systematic 'checks' which has to be arranged consists of the efforts of the mothers to train their children to regular habits of feeding, of sleeping, of being lifted to urinate and defaecate. The mothers or nurses who do not know, neglect this with very disastrous results for the child in its later years. If no rule is adopted at this time then the child is deprived of one of its most important lessons. Of course with a baby there can be no 'hard and fast' rule but those who care for children should always have this fact in their minds and should not lift or fondle a child every time it cries. Such very simple 'check' experiences are the basis of the development of the future power of control and learning to do without certain things it may not be necessary or convenient or good for us to have. This is the core too of what we call discipline, and like all other mental and moral qualities it has its beginning through concrete physiological experience.

But this does not mean that the child should be left in uncomfortable conditions to cry just for the sake of discipline. It means that the mother must see that everything has been done for the comfort and well being of her child first. It must be fed regularly, must be lifted and put down regularly, but never be allowed to lie wet or uncomfortable for a long time, it must be washed regularly and even played with regularly, and

then it will soon realise that there is a time for everything though quite unconscious that it is learning a lesson. In this way the mother or nurse provides the first lesson in discipline. By this term discipline we first of all mean mental experience of regularity in the bodily functions. It is hardly possible to exaggerate the importance of these early lessons in control and regularity. For, as the child grows, other little checks are experienced which serve to deepen and gradually train the second aspect of discipline, namely, the 'sense' of control and the power to inhibit action when necessary as well as to check desire consciously. For example, it will often happen that the child will see some things that it will want to have. It may have to learn that it cannot have some of these things; and, if it has learnt its first lesson wisely, lovingly, it will be easier for it to realise this much stronger 'check' experience and to profit from it. But if it has never had any 'checks' at all then it will be very difficult to make the child realise that it has to do without something it desires very much. A feeling of resentment and anger may then be born in its mind and that will make all discipline impossible.

This law of physiological regularity, too, has to be extended to the environment. In the environment it becomes the law of 'order' Order is one of the most potent means of discipline and it is also one of the best educational means of speedy learning in the ordinary sense of the term though that is not always realised by parents and teachers. A proper environment should therefore not only have just those things that are suitable for children to have and to play with, but these should be kept in their proper place till they are wanted by the child, so that it may learn quickly and

always know where to get them. When this is done it will learn by reaction to put them back in that place if the nurses see that they are always to be found there. Thus the environment has its part to play in developing the sense of discipline also as well as in the other aspects of development. But it must be remembered that no child wants to play with the same thing always, and so provision will have to be made in the environment for the growing needs of the child. Without this the environment would itself become the greatest check, but not of the right kind; for it would tend either to inhibit all action altogether, or else to produce a restless, dissatisfied, 'tempery' child, with the spirit of destruction markedly evident instead of the sense of control. All of these facts show us how important it is that each child should have the proper care in a nursery first, and then in a nursery school when it is about three years of age, for only there can the proper type of environment be provided and the proper care be given to all children alike.

The problem of discipline is a very difficult one and involves also the question of obedience. So difficult is it that the only way we know of training it well at present is by the severe and necessary 'checks' which have generally to be made in the form of compulsory rules and which are always most difficult to get obeyed. Indeed it has been found that it is sometimes impossible to get rules obeyed unless such severe measures called rewards and punishments are resorted to. Now this is generally due to the lack of understanding on the one hand, and on the other to the lack of the preliminary training of the child in regularity, in order and in the sense of confidence and trust in the words and deeds of the adults around it. By compulsion and punishment we

may prevent somebody doing something, but that does not mean that we have taught them not to do it, or why they ought not to do it. If compulsion and punishment are severe then we may produce habits of false repression and wrong feelings which will either tend to prevent intelligent action or will burst out some day in wrong doing. Discipline through obedience must be of that loving and understanding type which arises out of confident reliance on those who have given tender, but firm, regular and constant care.

This brief study, then, may serve to show how most of the problems and difficulties of life are due to our own ignorance and misunderstanding; how they have their roots in the early life of childhood; how carefully those who tend little children should study the nature of the 'home' environment required for them and how they should be trained not only to observe but also when and how to help them.

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